

Serial No. **09/996,713**

Docket No. **P-0289**

Amendment dated September 30, 2010

Reply to Office Action dated July 8, 2010

REMARKS/ARGUMENTS

The Examiner is thanked for the courtesies extended to Applicant's representative during the interview conducted on September 29, 2010. The substance of the interview, including any agreements reached, is reflected in the above amendments and the following remarks. Withdrawal of the rejections is thus respectfully requested.

Claims 1, 3-18 and 26-36 are pending in this application. By this Amendment, claims 1, 10, 29 and 32 are amended as discussed during the interview. Support for the claims can be found throughout the specification, including the original claims and the drawings.

Entry of the amended claims is proper under 37 C.F.R. §1.116 since the amendments: (1) place the application in condition for allowance for the reasons discussed herein; (2) do not raise any new issues requiring further search and/or consideration, since the amendments amplify issues previously discussed throughout prosecution without incorporating additional subject matter; and/or (3) place the application in better form for appeal, if necessary. Entry is thus requested.

REJECTIONS UNDER 35 U.S.C. §103(a)

Irube, Mikuni and Berstis

The Office Action rejects claims 1, 3, 4, 6-8, 26-28 and 33 under 35 U.S.C. §103(a) over Irube in view of Mikuni, and further in view of Berstis. The rejection is respectfully traversed.

Independent claim 1 is directed to a mobile terminal, including a codec configured to perform a converting operation between analog voice data and digital voice data, a camera module connected to a camera installed within the mobile terminal, the camera module configured to perform a converting operation between analog image data and digital image data, and a direction sensor configured to detect direction data associated with an image located in a photographing direction of the camera.

The direction data is formatted in only two consecutive bytes. A first byte of the only two consecutive bytes is configured to provide compass heading information of the image. A first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image. A second byte of the only two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte.

The mobile terminal also includes a voice/image communication apparatus configured to multiplex or demultiplex the direction data, the voice data and the image data, a display module configured to simultaneously display the image based on the image data and the direction data from the voice/image communication apparatus, wherein the direction data is displayed on the image to indicate the compass heading information and the compass bearing information associated with the image, a speaker configured to output the voice data demultiplexed by the voice/image communication apparatus, and a control unit configured to control the codec, the camera module, the voice/image communication apparatus, and the display module, wherein the control unit checks whether a direction displaying mode has been selected and controls the display module to display the image data and the direction data simultaneously as a single image when the direction displaying mode is selected.

As acknowledged in the Office Action and as agreed during the interview, Irube alone neither discloses nor suggests all of the features recited in independent claim 1, or the claimed combination of features. More specifically, as acknowledged in the Office Action and as agreed during the interview, Irube alone neither discloses nor suggests direction data formatted in the specific manner recited in independent claim 1. The Office Action combines Irube with Mikuni, asserting that Mikuni discloses such features. However, as discussed during the interview, Mikuni fails to overcome the deficiencies of Irube.

As discussed during the interview, Mikuni discloses an image processing system in which an image photographed by a digital camera can be coordinated with a car navigation system, so

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that the driver can confirm where the photographed image was acquired. In Mikuni's system, photographed image data and input information are temporarily stored in a RAM 10 segregated into a system work area 10-1, an image data area 10-2, and a stack area 10-3. Data in the image data area 10-2 is arranged in a series of 12 bytes, including positional information indicative of North/South/East/West (1 byte), latitude data (5 bytes), longitude data (5 bytes), and an identifier (1 byte). The positional information is manually entered by a user through manipulation of the key operation unit 9 based on information displayed on a screen of the vehicle navigation system at the time the image is photographed.

Independent claim 1 recites that direction data is formatted in only two consecutive bytes. In contrast, in Mikuni's system, the first record including the positional information of the object being photographed is formatted in a total of 12 bytes and stored in the image data area 10-2 of the RAM 10. The 12 bytes used by Mikuni's system to format and store positional information is substantially greater than the claimed 2 consecutive bytes of the direction data recited in independent claim 1.

Independent claim 1 also recites that a first byte of the only two consecutive bytes is configured to provide compass heading information of the image, and a second byte of the only two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte. In contrast, as set forth above, and as shown in, for example, Figures 7A-7E and 9A-9D of Mikuni, latitude

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data (5 bytes) and longitude data (5 additional bytes) are stored, and latitude and longitude numbers are displayed with the image. Mikuni neither discloses nor suggests that compass heading or bearing information is stored in a single byte, let alone a single byte of two consecutive bytes, nor that such compass heading/bearing information is displayed together with the image.

Additionally, Mikuni neither discloses nor suggests formatting compass bearing information comprising at least an angle between directions in a single byte. Rather, as discussed above, Mikuni relies on a total of 10 bytes to format and display latitude and longitude coordinates. Mikuni neither discloses nor suggests that any type of compass heading and bearing are stored in a single byte of only two consecutive bytes, nor that any type of angle between directions is stored or displayed. Thus, Mikuni neither discloses nor suggests direction data is formatted in only two consecutive bytes, wherein a first byte of the only two consecutive bytes is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a second byte of the only two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte, as recited in independent claim 1.

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Berstis is merely cited as allegedly teaching direction displaying, and for at least this reason fails to overcome the deficiencies of Irube, either alone or in combination with Mikuni.

Accordingly, it is respectfully submitted that independent claim 1 is allowable over the applied combination, and thus the rejection of independent claim 1 under 35 U.S.C. §103(a) over Irube, Mikuni and Berstis should be withdrawn. Dependent claims 3, 4, 6-8, 26-28 and 33 are allowable over Irube, Mikuni and Berstis at least for the reasons set forth above with respect to independent claim 1, from which they depend, as well as for their added features.

Irube, Mikuni, Berstis and Takahashi

The Office Action rejects claims 9 and 11 under 35 U.S.C. §103(a) over Irube, Murphy and Berstis in view of Takahashi. The rejection is respectfully traversed.

Dependent claims 9 and 11 are allowable over Irube, Mikuni and Berstis at least for the reasons set forth herein with respect to independent claims 1 and 10, from which they respectively depend, as well as for their added features. Further, Takahashi is merely cited as allegedly teaching the formation of null data, and thus fails to overcome the deficiencies of Irube, Murphy and Berstis. Accordingly, it is respectfully submitted that claims 9 and 11 are allowable over the applied combination, and thus the rejection of claims 9 and 11 under 35 U.S.C. §103(a) over Irube, Mikuni, Berstis and Takahashi should be withdrawn.

The Office Action rejects claims 5, 10 and 12-18 under 35 U.S.C. §103(a) over Irube, Mikuni and Berstis in view of Rudow. The rejection is respectfully traversed.

Independent claim 10 is directed to a method for displaying image data and direction data of an object being photographed on a screen of a mobile terminal. Independent claim 10 recites that the method comprises, *inter alia*, demultiplexing, at a demultiplexing unit of the mobile terminal, the data into image data, voice data and compass orientation direction data, wherein the direction data is formatted in only two consecutive bytes, wherein a first byte of the only two consecutive bytes is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a second byte of the only two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte.

As discussed during the interview and as set forth above, Irube, Mikuni and Berstis, either alone or in combination, neither disclose nor suggest such features, or the claimed combination of features. Further, Rudow is merely cited as allegedly teaching display means, and for at least this reason fails to overcome the deficiencies of Irube, Mikuni and Berstis.

Accordingly, it is respectfully submitted that independent claim 10 is allowable over the applied combination, and thus the rejection of independent claim 10 under 35 U.S.C. §103(a) over Irube, Mikuni, Berstis and Rudow should be withdrawn. Dependent claims 5 and 12-18 are allowable over Irube, Mikuni, Berstis and Rudow at least for the reasons set forth above with respect to independent claims 1 and 10, from which they respectively depend, as well as for their added features.

Irube, Mikuni, Berstis and Vance

The Office Action rejects claim 32 under 35 U.S.C. §103(a) over Irube, Mikuni and Berstis in view of Vance. It appears, based on the comments in the Office Action, that it was the Examiner's intention to also reject claim 36 under 35 U.S.C. §103(a) over Irube, Mikuni, Berstis and Vance. The rejection is respectfully traversed.

Independent claim 32 is directed to a method of displaying direction information associated with an object being photographed by a camera phone on a screen of the camera phone, the method comprising, *inter alia*, direction data is formatted in only two consecutive bytes, wherein a first byte of the only two consecutive bytes is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a

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second byte of the only two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte.

As discussed during the interview and as set forth above, Irube, Mikuni and Berstis, either alone or in combination, neither disclose nor suggest such features, or the claimed combination of features. Further, Vance is merely cited as allegedly teaching displaying information on a camera phone, and for at least this reason fails to overcome the deficiencies of Irube, Mikuni and Berstis.

Accordingly, it is respectfully submitted that independent claim 32 is allowable over the applied combination, and thus the rejection of independent claim 32 under 35 U.S.C. §103(a) over Irube, Mikuni, Berstis and Vance should be withdrawn. Dependent claim 36 is allowable over Irube, Mikuni, Berstis and Vance at least for the reasons set forth above with respect to independent claim 32, from which it depends, as well as for its added features.

Irube, Mikuni, Berstis and Yamagishi

The Office Action rejects claims 29-31 and 35 under 35 U.S.C. §103(a) over Irube, Mikuni and Berstis in view of Yamagishi. The rejection is respectfully traversed.

Independent claim 29 is directed to a mobile terminal, comprising, *inter alia*, direction data is formatted in only two consecutive bytes, wherein a first byte of the only two consecutive bytes

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is configured to provide compass heading information of the image, wherein a first bit, a second bit, a third bit and a fourth bit of the first byte, when active, are configured to indicate north, east, west and south, respectively, and wherein at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte are set active so as to denote the compass heading information of the image, and wherein a second byte of the only two consecutive bytes is configured to provide compass bearing information, the compass bearing information comprising at least an angle between directions represented by the at most two of the first bit, the second bit, the third bit or the fourth bit of the first byte.

As discussed during the interview and as set forth above, Irube, Mikuni and Berstis, either alone or in combination, neither disclose nor suggest such features, or the claimed combination of features. Further, Yamagishi is merely cited as allegedly teaching placement of packets within a data stream, and for at least this reason fails to overcome the deficiencies of Irube, Mikuni and Berstis.

Accordingly, it is respectfully submitted that independent claim 29 is allowable over the applied combination, and thus the rejection of independent claim 32 under 35 U.S.C. §103(a) over Irube, Mikuni, Berstis and Yamagishi should be withdrawn. Dependent claims 30, 31 and 35 are allowable over Irube, Mikuni, Berstis and Yamagishi at least for the reasons set forth above with respect to independent claim 29, from which they depend, as well as for their added features.

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Irube, Mikuni, Berstis, Rudow and Yamagishi

The Office Action rejects claim 34 under 35 U.S.C. §103(a) over Irube, Mikuni and Berstis in view of Rudow, and further in view of Yamagishi. The rejection is respectfully traversed.

Dependent claim 34 is allowable over Irube, Mikuni and Berstis at least for the reasons set forth above with respect to independent claim 10, from which it depends, as well as for its added features. Further, as set forth above, Rudow and Yamagishi, either alone or in combination, fail to overcome the deficiencies of Irube, Mikuni and Berstis. Accordingly, it is respectfully submitted that claim 34 is allowable over the applied combination, and thus the rejection of claim 34 under 35 U.S.C. §103(a) over Irube, Mikuni, Berstis, Rudow and Yamagishi should be withdrawn.

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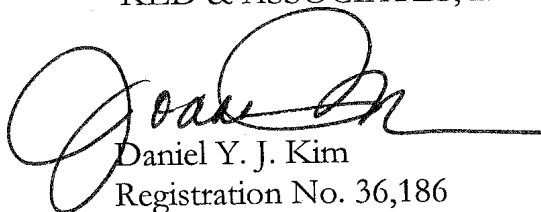
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CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned, **Joanna K. Mason**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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